

The care over the injured according to the Tactical Combat Casualty Care standard - introduction

(Opieka nad poszkodowanym w warunkach działań taktycznych
w oparciu o standard TCCC - wprowadzenie)

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Abstract – Combat-related activities that have been undertaken all over the world for many years pose a threat of lethal consequences. Research indicates that as much as 80% of deaths are the so-called inevitable deaths. Activity in a combat environment is a very specific and characteristic context. The tasks at hand are performed under a direct threat of the enemy opening fire, with a strict code applied to using light or sound, in extreme weather conditions and given the variety of injuries. Actions taken can only be successful if the procedures of tactical combat care are followed..

The aim of this paper was to provide an overview of the origins of *Tactical Combat Casualty Care*.

The literature on the subject was found based on the Scopus database after running a search on *Tactical Combat Casualty Care* in years 2004 to 2014. Then, Google Scholar was used to select articles, comments, and thematic publications with the largest number of citations on the aforementioned topic. Thus collected sources were the material for this paper.

Key words - Tactical Combat Casualty Care, history.

Streszczenie – Działania zbrojne, prowadzone od wielu lat na całym świecie niosą za sobą śmiertelne w skutkach zdarzenia. Z badań wynika, że aż 80% zgonów stanowią tzw. „zgony niemożliwe do uniknięcia”. Prowadzenie działań w warunkach bojowych związane jest ze swoją specyfiką. Realizacja zadań prowadzona pod bezpośrednim zagrożeniem ognia nieprzyjaciela, przy zachowaniu dyscypliny świetlnej, dźwiękowej, przy ekstremalnej pogodzie, wreszcie odmienności urazów jest skuteczna przy zastosowaniu odpowiednich procedur postępowania ratunkowego w środowisku taktycznym.

Celem pracy było przedstawienie rysu historycznego powstawania *Tactical Combat Casualty Care*.

Piśmiennictwo tematyczne wytypowano w oparciu o bazę Scopus używając hasła *Tactical Combat Casualty Care* za okres 2004-2015r. Następnie przy wykorzystaniu Google Scholar wyselekcjonowano artykuły, komentarze, opracowania zwarte o największej liczbie cytowań, dotyczących powyższej tematyki. Tak zgromadzone piśmiennictwo posłużyło za materiał do opracowania niniejszej pracy.

Słowa kluczowe - opieka nad poszkodowanym w warunkach działań bojowych, historia.

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Authors' contributions to the article:

- A. The idea and the planning of the study
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Accepted for publication: January 8, 2016.

I. INTRODUCTION

The awareness of the progress that has been made in the field of combat medicine increases the chance of saving those injured on battlefields. Experience with war gained on overseas missions make it possible to employ a scientific approach to the implementation of relevant procedures, medical activity schemes, and non-medical

logistics. This turns out to be a perfect tool for minimizing the death toll during combat activities. Modern-day war endeavours cannot be prevented from causing death, but the casualty rate might be decreased to the minimum by applying proper care over the injured in tactical combat environment – in other words, employing Tactical Combat Casualty Care (TCCC, or TC3). The basic underlying assumption behind TCCC is to prevent death as long as it is possible, to keep the number of casualties to the minimum, and to basically perform the task at hand. It is estimated that during tactical combat the most common causes of the so-called preventable deaths are: extremity haemorrhages (60%), tension-related injuries to the chest, especially tension pneumothorax (33%), and airway obstruction (6%) [1-3]. The implementation of procedures different than in non-combat circumstances is motivated mainly by the mechanism of the injury sustained by a wounded soldier or officer. Therefore, in Tactical Combat Casualty Care the medical intervention should be correct and timely so that the injured can go back to perform their tasks, as long as it is possible. What needs to be emphasised is that during combat, a wounded soldier may expect medical attention under enemy fire, which does not guarantee even a minimum level of safety to the rescuer. Providing medical attention to the injured within the TCCC standard is related to acknowledging the fact that there is a fine, changeable line between safety and its absence. The creation of three action zones in tactical combat environment had impact on the procedure of treating an injured soldier. A sudden combat environment change for worse may render some parts of the procedure either infeasible or inadvisable [1,3].

The fact that the matter of Tactical Combat Casualty Care is very much around has encouraged the author to analyse the literature on the subject.

The aim of the study is to present a historical account of the creation of TCCC and the underlying assumptions of combat casualty care.

II. DATA SOURCES

The data source search has been conducted in the Scopus database using the key phrase of *Tactical Combat Casualty Care* in the records for the period from 2004 to 2014. Thus selected references were narrowed down using Google Scholar to include only those with the largest numbers of citations on the subject matter. They were the material for this study.

III. THE HISTORY OF TCCC

Combat activities that have been taking place for many years all over the world carry a serious threat of lethal outcomes. Studies show that as much as 80% of deaths are the so-called inevitable deaths. So large percentage is the effect of difficulties in providing care during combat.

“It is difficult to emphasize sufficiently the importance of initial treatment on the battlefield. What the wounded Soldier does on his own behalf,

or what his infantry colleagues do for him, and what the company aidman does for a traumatic amputation or a gaping wound of the chest, in the thick of battle, in the dust and heat or in blowing snow — on these simple procedures depend life and death... A slight improvement in the skill and judgment of the company aidman will save... more human lives than will the attainment of 100-percent perfection in the surgical hospital.” – Lieutenant Colonel Douglas Lindsey in a presentation for Army Medical Graduate School, 1951 [2].

Tactical Combat Casualty Care (TCCC or TC3) stands for caring over the wounded in tactical combat. This concept has been present in the awareness of uniformed services for a relatively short time. The beginnings of laying the foundations for combat medical help methods and procedures took place in 1990s. Before that time, civilian guidelines such as EMT (Emergency Medical Technician), PHTLS (Pre-hospital Trauma Life Support), ATLS (Advanced Trauma Life Support), or BTLS (Basic Trauma Life Support) were observed. These procedures are adjusted to civilian environment, which do not take into consideration the specificity of care in combat.

The impulse for the creation of TCCC was provided by the dramatic events of October 3-4, 1993 in Mogadishu, Somalia. Task Force Ranger composed of the Bravo Company, 3rd Battalion of the 75th Ranger Regiment clashed with clan militia of Mohamed Farrah Aidid [1-3]. The operation planned for 45 minutes billowed into a regular battle during which 73 American soldiers were wounded and 18 – killed. An accurate analysis of the casualties suffered by the American forces in Mogadishu showed how important it is to change the philosophy behind the protection of soldiers' lives and well-being. Most of the KIAs were those who died during evacuation or in hospital. It has been proved that that the procedures for selecting rescue equipment, prioritising the care provision depending on the wound, and qualifying the wounded for transport were to blame. The outcome of this analysis was the beginning of TCCC initiative instigated by Naval Special Warfare Command under the supervision of United States Special Operations Com-

mand. After three years of data analyses and discussions with rescuers and military physicians, the „Military Medicine Supplement” journal published the results in 1996. This was the first known usage of the term TCCC. Since 2005, TCCC has been a standard in the training of American special units and then armed forces and many United Nations armies. Changes that TCCC brought about were also related to the equipment of medical operators and every soldier.

A crucial event for the development of TCCC was the establishment of the Committee on Tactical Combat Casualty Care (CoTCCC) in 2001. The Committee is responsible for assessing and analysing clinical cases resulting from war-related activities. Its 42 members – specialists on trauma surgery and intensive care as well as paramedics from respective armed forces organizations – work to change the guidelines as required. Most recent guidelines were developed in 2013.

At the beginning, the TCCC standard applied only to military units, yet it was quickly broadened to include other kinds of uniformed forces. The current tendency is to apply the same combat casualty care guidelines as are utilised by forces operating in a given country. This stems from, above all, the differences in the environment in which the units operate rather than from different priorities.

IV. THE BASIC ASSUMPTIONS OF TACTICAL RESCUE AND CAUSES OF DEATH ON BATTLEFIELDS

In TCCC, there are three principal goals, which provide an overview of the whole concept [4]:

- To prevent from death, if it can be prevented,
- To prevent from additional casualties,
- To complete the task at hand.

During combat, the most common causes of the so-called preventable deaths are: extremity haemorrhages (60%), tension-related injuries to the chest, especially tension pneumothorax (33%), and airway obstruction (6%) [2]. Ever since TCCC was introduced for the first time, the causes of death have not changed despite the ongoing effort to improve the guidelines. According to the report of the U.S. Army of Institute of Surgical Research committee (2007) which assesses the causes of death in U.S. Special Operations Forces, 82 SOF soldiers were killed in worldwide conflicts between 2001 and 2004. As the post-mortem examinations of 77 bodies showed (5 were killed in aircraft crashes and their bodies were never found), as much as

85% of deaths had no chances of surviving, and the remaining 15% responded positively to medical treatment and there was hope for survival. Internal haemorrhages were the cause of 47% of deaths, and extremity haemorrhages – 33%. Soldiers die as a result of explosions (around 45%), followed by gunshot wounds (around 30%), and aircraft crashes (around 25%). The analysis showed that 53% of preventable deaths were caused by the absence of up-to-date training on first aid and the lack of proper equipment [5].

The consensus on different procedures that are different from those in non-combat environment stems mainly from the specificity of wounds inflicted on soldiers or functionaries. Therefore, combat casualty care entails intervening by using a proper method in a proper time so that a wounded soldier can, as long as it's possible, return to performing the task. It has to be remembered that in armed conflicts the wounded might expect to be treated under enemy fire, which does not provide the rescuer with a minimum level of safety. A correct medical procedure applied in an incorrect time may lead to further casualties, the complications of the tactical situation, decreased firepower, crippled ability to move the team and, in consequence of these, the failure to perform the task. Therefore, it has to be remembered that a soldier or a functionary should perform the role to which he was assigned as a priority, and take on tasks of a rescuer as a secondary obligation. A rescuer who provides aid has to be aware of the fact that he is never safe and it might be risky to attempt rescue.

V. THE PHASES OF COMBAT PATIENT CARE

Providing aid according to TCCC is related to acknowledging a blurry line between safety and danger. The creation of three activity zones in a tactical combat environment resulted in determining a sequence of actions to be taken when a soldier is in need of help. A sudden change of the circumstances in combat for worse may render some of the procedures infeasible or inadvisable.

In TCCC, three phases of combat patient treatment are defined. They define the priorities and the extent of help clearly, dividing the actions in the following way [3,4]:

- Care Under Fire – providing aid during direct enemy contact,
- Tactical Field Care – aid in the field,
- Tactical Evacuation Care (MEDEVAC/CASEVAC) – aid during evacuation.

VI. REFERENCES

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